

DOCUMENT RESUME

ED 145 181

CE 012 921

TITLE A Taxonomy of the Health System Appropriate for Plan Development. Health Planning Methods and Technology Series.

INSTITUTION Government Studies & Systems, Philadelphia, Pa.

SPONS AGENCY Health Resources Administration (DHEW/PHS), Bethesda, Md.; National Health Planning Information Center (DHEW/PHS), Rockville, Md.

REPORT NO HRP-0100401

PUB DATE May 77

CONTRACT HRA-230-76-0105

NOTE 76p.

EDRS PRICE MF-\$0.83 HC-\$4.67 Plus Postage.

DESCRIPTORS Classification; Cooperative Planning; Definitions; Guides; Health; *Health Facilities; *Health Services; Interagency Planning; Medical Services; *Models; *Planning; *Systems Approach; *Taxonomy; Typology

ABSTRACT

This report presents a two-dimensional framework for classifying the health system which is recommended for use by health planning agencies during plan development activities. The content is in six sections: The first section discusses the need for a consistent planning framework. Section 2 presents the rationale for the selection of health services and the settings in which these services are delivered as the primary dimensions for classifying the health system. Section 3 covers the following two-level classification scheme: The services are grouped into seven first-level categories according to their intended purpose (community health promotion and protection, prevention and detection, diagnosis and treatment, habilitation and rehabilitation, maintenance services, personal health care support services, and health system enabling services), and then subclassified into second level categories wherever differences in techniques or areas of concern are readily distinguished; and the settings are first grouped into seven first-level categories according to the expected locational relationship between the provider and those served (home, mobile, ambulatory, short-stay inpatient, long-stay inpatient, free-standing support, and community) and then categorized by organizational type, where applicable. Section 4 briefly discusses the uses for the recommended framework; and section 5 defines each of the categories comprising the services classification scheme. The final section defines the setting classification categories. (EM)

* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *

ED145181

**A
Taxonomy
of the
Health
System
Appropriate
for
Plan
Development**

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Government Studies & Systems
Philadelphia, Pennsylvania
Contract No. HRA 230-76-0105

May 1977

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Health Resources Administration
Bureau of Health Planning and Resources Development
Division of Planning Methods and Technology
National Health Planning Information Center

DHEW Publication No. (HRA) 77-14534

HRP - 0100401

OE 012 921

FOREWORD

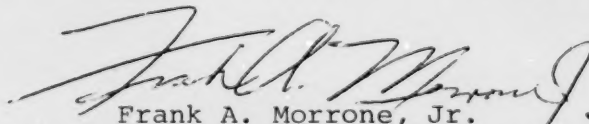
The Taxonomy presents a two-dimensional analytic framework of the health system which is recommended for use by Health Systems Agencies (HSAs) and State Health Planning and Development Agencies (SHPDAs) in plan development activities.

The analytic framework outlined in this report is one of many ways for classifying the health system. Many other primary dimensions have been utilized in past classification schemes.

This Taxonomy is designed to augment the framework of health services and settings of service delivery presented in the Guidelines Concerning the Development of Health Systems Plans and Annual Implementation Plans. It should be noted that the Guidelines refer to six service categories rather than the seven categories presented herein. An additional category of "health systems enabling services" has been added to the Taxonomy to include organized activities designed to influence the means by which, and conditions under which, health systems services are delivered.

It is strongly recommended that all HSAs and the State Agency within each State adopt a common descriptive and analytic framework of the health system for the development of coordinated plans. The existence and consistent use of an analytic framework such as the one recommended herein should enable planning agencies to more easily maintain the system-wide perspective essential to effective health planning.

We welcome comments or questions concerning the Taxonomy. Comments should be directed to Division of Planning Methods and Technology, Bureau of Health Planning and Resources Development, Center Building, 3700 East-West Highway, Room 5-22, Hyattsville, Maryland 20782.



Frank A. Morrone, Jr.
Acting Director
Division of Planning Methods & Technology
Bureau of Health Planning and Resources
Development

The Division of Planning Methods and Technology, BHPRD, through the National Health Planning Information Center, is a primary resource for current information on a wide variety of topics relevant to health planning and resources development. To facilitate the dissemination of information to health planners, the Center will publish selected monographs in three series:

1. Health Planning Methods and Technology

This series will focus on the technical and administrative aspects of the health planning process, including such areas as methods and approaches to the various aspects of the health planning process, techniques for analyzing health planning information and problems, and approaches to the effective dissemination and utilization of technical information.

2. Health Planning Information

This series will focus on data and information to support the health planning process, including sources of information and data for use in health planning.

3. Health Planning Bibliography

This series will focus on general and specialized bibliographies that relate to topical subject areas in health planning.

A Taxonomy of the Health System Appropriate for Plan Development is the fourth publication in the Health Planning Methods and Technology Series.

CONTENTS

	<u>Page</u>
Foreword	ii
I. Introduction	1
II. Primary Dimensions For Classifying the Health System	3
III. An Analytic Framework of the Health System	7
IV. Uses For The Recommended Framework. . . .	23
V. Health System Services Definitions. . . .	27
VI. Health System Setting Definitions	39
APPENDIX A	
APPENDIX B	

I. INTRODUCTION

This paper presents a two-dimensional analytic framework of the health system which is recommended for use by health planning agencies during their plan development activities. One dimension of the framework presents a classification of health system services, the other a classification of the settings in which these services are delivered.

The need for a consistent way of classifying the health system has become increasingly apparent as work has progressed on a series of technical assistance documents being developed under the auspices of the Bureau of Health Planning and Resources Development. These technical assistance materials include:

- A Sample Health Systems Plan
- A Sample Annual Implementation Plan
- A Model State Health Plan
- Appropriateness Review Criteria and Procedures
- Criteria and Standards for Project Review

The above list reflects the wide variety of planning agency functions specified under P.L. 93-641. These functions range from the development of long-range plans--which demands a system-wide perspective--to the review of proposed or existing health services--which is based upon service-specific criteria and detailed analyses carried out one service at a time.

All of these planning agency activities can be performed more effectively and in a more coordinated fashion if the health system is consistently viewed according to an analytic framework which reflects its scope and structure.

In particular, the consistent use of an analytic framework of the health system would:

- increase the likelihood that planning agencies would utilize a system-wide perspective during their plan development activities
- decrease the likelihood of contradictory or incompatible outcomes of plan development and review activities

With respect to the former, it is essential that planning agencies be cognizant of the functional and structural relationships between various components of the health system, especially when consideration is being given to alternative services which might accomplish the same end, or to alternative settings in which, and alternative resources by which, various services might be delivered in a more cost-effective manner.

Finally, the use of a common framework across health service areas would lend a much needed uniformity to planning efforts in neighboring regions, a matter of specific concern to state-wide agencies whose responsibility it is to coordinate local plans and priorities.

II. PRIMARY DIMENSIONS FOR CLASSIFYING THE HEALTH SYSTEM

Because the health system is complex and multidimensional, several different combinations of variables could be selected as the primary dimensions in any classification scheme. Primary dimensions utilized in previous attempts to classify the health system include:

- medical specialties (general medicine, surgery, obstetrics . . .)
- settings (ambulatory, short-stay inpatient, long-stay inpatient . . .)
- resources (hospital beds, nursing home beds, physicians, registered nurses . . .)
- intervention modes (prevention, diagnosis, treatment, rehabilitation . . .)
- disease categories (cancer, heart disease, end-stage renal disease . . .)
- level of specialization (primary, secondary, tertiary) among treatment modalities
- age (0-14, 15-44, 45-64, 65+)
- geographic subdivisions (counties, planning areas, states)

Previous attempts to classify the health system were given serious consideration during the development of the analytic framework described in this report. In fact, the classification scheme presented here is based in part on past efforts to develop a classification scheme for use by HSAs in assessing the appropriateness of institutional health services. In the course of this earlier work, a number of health system

taxonomies described in the medical care literature or used by health care organizations were reviewed. (Several of the more widely used classification schemes are presented and discussed in Appendix A). Existing data collection systems were also reviewed, since the ways in which data are collected and compiled imply an analytic organization of the health system, and therefore an implicit taxonomy.

No existing categorization of the health system was itself judged to be adequate, however, for both the plan development and review activities now required of health planning agencies. Thus, with some adaptation of existing taxonomies, a new two-dimensional analytic framework particularly suited to the institutional health care subsystem was developed. Personal health care services--grouped by modes of intervention--were selected as the primary categories along one dimension. Settings were chosen as the primary category along the second dimension, each setting being subsequently subdivided into organizational types (hospital versus non-hospital, for example).

The analytic framework presented in this report essentially extends the earlier taxonomy to the health system in its entirety. Most significant is the recommendation that "services" and "settings" are the two most appropriate primary dimensions for classifying the health system. The selection of services as one dimension was easily made, since the primary thrust of health planning activities is to

assure the availability, accessibility, acceptability, continuity and quality of all needed health services.

The selection of the second dimension was more difficult, however. Serious consideration was given to using resource categories (facility and manpower types), since another major emphasis of the legislation is to correct the maldistribution and prevent the unnecessary duplication of health resources. But it was reasoned that resource needs should not be considered until one has first determined the appropriate health care services to be delivered and the most appropriate settings for the delivery of these services. This is an especially important consideration, since the availability and utilization of alternative settings to the short-stay hospital represents a major opportunity for restraining increases in the cost of providing health services. Thus, while an inventory of resources is an essential item of information, and while resource needs are a critical output of the health planning process, settings were selected as a more significant dimension during plan development activities, especially with respect to the design of actions to effect changes in the health system.

Consideration was also given to the use of population subgroups determined by age or place of residence. Clearly, the planning process must take into account the different (health) service needs of different age groups, and planners

must be cognizant of varying degrees of availability and accessibility of services within subregions of a planning area. But a two-dimensional classification of services and settings seemed a far more appropriate framework than a one-dimensional classification of services alone would be for the design of alternative means to deliver needed services, whether for the entire population or for a specified population subgroup. Thus neither means of disaggregating the population to be served seemed worthy of being a primary dimension for viewing the health system in a region.

III. AN ANALYTIC FRAMEWORK OF THE HEALTH SYSTEM

As indicated in the previous section of this report, health system services and settings have been selected as the primary dimensions of an analytic framework illustrative of the scope and structure of the health system. The following definitions of services and settings (more general than definitions which might be utilized for personal health care services and settings, since the personal health care system is only a subset of the entire health system) are basic to the classification scheme which follows:

- Health System Services - related activities which utilize health resources and whose primary purpose is to contribute to the improvement or protection of the health status of the population or the environment affecting their health.
- Health System Settings - sites in which health resources are utilized in order to deliver health system services.

One important decision yet remains: how to categorize health system services into exhaustive and mutually exclusive clusters for which meaningful planning decisions can be made. An enumeration of each specific technique of intervention would produce a list of great length and little utility. A decision was therefore made to group all health system services into a few broad classifications, referred to as first level service categories. Within each such broad classification, the specific

components are listed and referred to as second level service categories. The term "level(s)" is used in the remainder of this document to mean degree of aggregation. According to this scheme:

- services are first grouped according to their intended purpose or effect; within these broad functional categories, services are subclassified wherever differences in technique or area of concern are readily distinguished.

A two-level approach is also recommended for categorizing health system settings:

- settings are first grouped according to the expected locational relationship between the provider of a service and the person or persons served; secondary categorizations are by organizational type, where applicable.

First Level Service Categories

Seven first level service categories are recommended. The second through sixth categories represent modes of intervention with respect to the delivery of personal health care services. The first and seventh categories represent an extension of the taxonomy to the set of health system services outside the personal health care system. The seven categories are defined as follows:

- Community Health Promotion and Protection -

Services directed at the community level toward improving the personal health behavior of community residents and improving the quality of factors in the environment which affect their health.

- Prevention and Detection - Services delivered to individuals in order to promote optimum physical and mental well-being, including protection from the development of disease and ill-health, or to identify disease or ill-health at the presymptomatic or unrecognized symptomatic stage to permit early intervention.

- Diagnosis and Treatment Services - Services for evaluating the health status of individuals, and identifying and alleviating disease and ill-health, or the symptoms thereof.

- Habilitation and Rehabilitation Services - Services to restore the ill or disabled individual to, or to assist the developmentally disabled individual to achieve, the fullest physical, mental, social, vocational and economic usefulness of which he is capable.

- Maintenance Services - Services provided to individuals with chronic physical and mental ill-health conditions in order to prevent deterioration in those conditions, as well as services provided to

individuals in need of assistance in activities of daily living. The purpose of such services is to enable an individual to participate in the community to the fullest degree to which that individual is capable. Maintenance services do not include habilitative or rehabilitative services, since the primary purpose of the latter services is to increase functional ability rather than maintain an existing level of function.

- Personal Health Care Support Services - Services which do not involve direct medical care, but which assist in the prevention, diagnosis and treatment of diseases and ill-health conditions, or in the habilitation, rehabilitation or maintenance of ill or disabled individuals.
- Health System Enabling Services - Organized activities designed to influence the means by which, and conditions under which, health system services are delivered.

Second Level Service Categories

Because the first level service categories defined above are too highly aggregated to be amenable to significant planning intervention, second level service categories have been introduced wherever differences in technique or area of concern can be readily distinguished within the first level categories.

These second level service classifications thus represent levels of disaggregation which should facilitate the design of alternative actions to modify the future health system (in order to achieve stated objectives for health status and health system performance). The seven first level categories are thus subclassified as follows:

- Community Health Promotion and Protection

- Health Education Services
- Environmental Quality Management
- Food Protection
- Occupational Health and Safety
- Radiation Safety
- Biomedical and Consumer Product Safety

- Prevention and Detection

- Individual Health Protection Services
- Detection Services

- Diagnosis and Treatment

- Obstetric Services
- Surgical Services
- Diagnostic Radiology Services
- Therapeutic Radiology Services
- Clinical Laboratory Services
- Emergency Medical Services
- Dental Health Services
- Mental Health Services
- General Medical Services

- Habilitation and Rehabilitation

- Medical Habilitation and Rehabilitation
- Therapy Services

- Maintenance Services

- Personal Health Care Support Services
 - Direct Patient Care Support Services
 - Administrative Services

- Health System Enabling Services
 - Health Planning
 - Resources Development
 - Financing
 - Regulation
 - Research

The reader is directed to Section V of this paper for definitions of all of the second level categories shown above. While these definitions should clarify the rationale for the majority of the categorization decisions made, several additional comments are offered:

- The second through the sixth subcategories under Community Health Promotion and Protection could be aggregated into one subcategory entitled "Environmental Health Services," but each of the listed component services has potentially such a significant effect upon the health status of the population that each seems deserving of a position in the taxonomy.

- Individual health protection services are often provided in conjunction with diagnosis and treatment services, but the potential cost-effectiveness of preventive services, versus services aimed towards alleviating ill-health, justifies their position in the taxonomy.

- Diagnostic radiology and clinical laboratory services are supportive of other personal health care services, both within and outside the diagnosis and treatment category, but the techniques used in diagnostic radiology and clinical laboratory were judged far closer to the techniques used in other diagnosis and treatment categories than the techniques used in the personal health care support services.
- Emergency medical services are really an aggregation of other categories of diagnosis and treatment services (surgery, diagnostic radiology, general medical services, etc.) provided under emergency conditions, and thus may not properly belong in the taxonomy, but the common acceptance of "emergency medical services" as an integral component of the personal health care system led to its inclusion nevertheless.
- General medical services are defined by exclusion as diagnosis and treatment services using techniques distinct from those used in the other subcategories; unfortunately, general medical services thus run the gamut from clinical diagnosis, prescription and medical care management to renal dialysis, but there is no satisfactory way in which to

further disaggregate those services classified here as "general medical" into subservices which might be considered parallel to the other subcategories within the diagnosis and treatment category.

- While the framework does not explicitly address the primary, secondary, and tertiary aspects of health system services, a distinction could be made within each second level category that corresponds to the degree of specialization involved in the delivery of health system services with respect to particular health problems.
- Although no subcategories are identified within the category of maintenance services, the application of such services becomes evident through the intersection with the settings categories. For example, maintenance services would include: providing assistance in the activities of daily living in a personal care home or the patient's home; or providing protected living in a sheltered care home.

Finally, it is quite evident that some well-known service denominations do not appear as such in this taxonomy. Conspicuous perhaps, by their absence are family planning services, burn care services, and pediatric services. Such "services" are typically an aggregation of one or more subcategories in this service taxonomy designed to address a given health condition or specific population subgroup.

For example, family planning may involve individual health protection, general medical services, obstetric services, surgical services, clinical laboratory services, and direct patient care support services. Likewise, burn services, viewed broadly from the standpoint of patient need, would cut across subcategories of emergency medical services, general medical services, surgical services, clinical laboratory, diagnostic radiology, and direct patient care support services as well as the category of habilitation and rehabilitation. The term "burn service", however, is used at times to mean all of these components, and more often to mean only the general medical services with coordinated linkages to the other named subcategories, which are viewed as being outside the burn service per se.

Pediatric services are not included as a distinct element along the services dimension because those services typically classified as pediatric services are in fact general medical services, or prevention and detection services, rendered to children. Pediatric services are thus an aggregation of other services along the services dimension. They are differentiated only by the population subgroup served, rather than by the intended effect of services or the techniques by which the services are rendered--the two criteria by which subclassifications among health system services have been made.

There exist many other aggregations of service subcategories which similarly address particular health conditions, or

population subgroups, and others will hopefully be designed in the process of plan development. One advantage of this taxonomy is that it allows a very specific definition of what is meant by each service subcategory in such cases.

First Level Setting Categories

Seven first level categories are also defined along the settings dimension:

- Home
- Mobile
- Ambulatory
- Short-Stay Inpatient
- Long-Stay Inpatient
- Free Standing Support
- Community

Definitions of these categories, which are already well understood by most readers, appear in Section VI. Note that six of the seven first level categories are primarily used for the delivery of personal health care services, reflecting the desired emphasis on the medical care system.

Second Level Setting Categories

A second level does not exist throughout the setting dimension. In fact, hospital vis-a-vis non-hospital settings within the ambulatory, short-stay inpatient and long-stay inpatient settings are the only second level setting classifications in the taxonomy. The illustrative third level entries are especially helpful along the settings dimension, for they not only demonstrate the large number of alternative settings in which services can be provided, but also indicate the wide

variety of restrictions (condition-specific, age-specific, affiliation-specific, etc.) which may render certain settings inaccessible to certain population subgroups.

A Simplified Framework

Exhibit I depicts a simplified framework of the health system using only the first level service and setting classifications listed above. While this simplified framework is illustrative of the scope of the health system, the categories are too highly aggregated for planning purposes.

The Recommended Framework

The second level categories of health system services and settings defined above represent the analytic framework which is recommended instead for use by planning agencies during their plan development activities. This framework is shown in Exhibit II.

While it is our belief that this framework is ideally suited to the plan development activities required under the National Health Planning and Resources Development Act of 1974 (P.L. 93-641), it is not suggested that state or local planning agencies could not develop alternative frameworks equally well suited to those activities. It is strongly advised, however, that all Health Systems Agencies and the State Agency in any one State adopt a common descriptive and analytic framework of the health system, for the development of coordinated State Health Plans is likely to be seriously hampered otherwise.

EXHIBIT I

A SIMPLIFIED TAXONOMIC CLASSIFICATION
OF HEALTH SYSTEM SERVICES AND SETTINGS

HEALTH SYSTEM SERVICES	HEALTH SYSTEM SETTINGS						
	HOME	MOBILE	AMBULATORY	SHORT-STAY INPATIENT	LONG-STAY INPATIENT	FREE-STANDING SUPPORT	COMMUNITY
COMMUNITY HEALTH PROMOTION AND PROTECTION							
PREVENTION AND DETECTION							
DIAGNOSIS AND TREATMENT							
HABILITATION AND REHABILITATION							
MAINTENANCE							
PERSONAL HEALTH CARE SUPPORT							
HEALTH SYSTEM ENABLING							

18

EXHIBIT II

AN ANALYTIC FRAMEWORK OF HEALTH SYSTEM SERVICES AND SETTINGS

HEALTH SYSTEM SERVICES		HOME	MOBILE	HEALTH SYSTEM SETTINGS						FREE STANDING SUPPORT	COMMENT
				AMBULATORY		SHORT-TERM INPATIENT		LONG-TERM INPATIENT			
				Hospital	Other	Hospital	Other	Hospital	Other		
COMMUNITY HEALTH PROMOTION AND PROTECTION	Health Education Services										
	Mental Health Promotion Services										
	Environmental Quality Management										
	Food Protection										
	Occupational Health and Safety										
	Radiation Safety										
	Biomedical and Consumer Product Safety										
PREVENTION AND DETECTION	Individual Health Protection Services										
	Detection Services										
DIAGNOSIS AND TREATMENT	Obstetric Services										
	Surgical Services										
	Diagnostic Radiology Services										
	Therapeutic Radiology Services										
	Clinical Laboratory Services										
	Emergency Medical Services										
	Dental Health Services										
	Mental Health Services										
	General Medical Services										
REHABILITATION AND REHABILITATION	Rehabilitation and Rehabilitation Services										
	Therapy Services										
MAINTENANCE											
PERSONAL HEALTH CARE SUPPORT	Direct Patient Care Support Services										
	Administrative Services										
HEALTH SYSTEM ENABLING	Health Planning										
	Resources Development										
	Financing										
	Regulation										
	Research										

The fifth and sixth sections of this paper respectively provide definitions of the service and setting categories which appear in the recommended framework. Although only two levels of classification (within each dimension) are presented in the framework itself, definitions of several second level classifications include illustrative third level services and settings. This additional information was provided for the sake of clarification whenever a second level category represented a still highly aggregated set of services or settings. While more advanced planning agencies may desire to plan with respect to third level services or settings, the second level classifications are believed to be appropriate levels of system disaggregation during the first plan development cycle. Finally, because the third level services and settings which appear in the definitions section are only illustrative, it is neither intended nor implied that these represent all component services or settings within the higher level category in which they appear.

Appendix B includes a detailed outline of all three levels within the health system services and health system settings dimensions of the framework. The appendix is provided as a convenient reference point for the reader who is interested in the location of a particular service or setting within the overall framework.

Comparison with Taxonomy of Institutional Health Services

Although several modest modifications have also been made to the earlier classification of personal health care services

and institutional settings--on the basis that plan development activities require somewhat different emphasis than activities related to the review of institutional health services--these modifications have not created any inconsistencies between the earlier taxonomy and the framework presented in this report.

The two taxonomies are identical insofar as:

- The five first level personal health care service categories in this taxonomy are the five major service categories in the institutional health services taxonomy.
- The first six first level setting categories in this taxonomy are the six major setting categories in the institutional health services taxonomy.
- The second level services within prevention and detection services and diagnosis and treatment services are the same in both taxonomies.

The two taxonomies are compatible, but not identical, in several other areas:

- Within the habilitation and rehabilitation and personal health care support categories, certain of the second level services appearing in the institutional health services taxonomy have been aggregated at level two in this taxonomy.

- The hospital/non-hospital subdivision was not utilized in this taxonomy within the home and mobile setting categories, although it does appear in these categories in the institutional health services taxonomy; conversely, the latter taxonomy used a five-part subclassification at level two within the long-stay setting category, while this taxonomy uses the hospital/non-hospital dichotomy at the second level, and specifies types of non-hospital settings at the illustrative third level.
- The institutional health services taxonomy uses a yes/no dichotomy to represent setting restrictions, whereas several types of illustrative restrictions are shown at level three in this taxonomy.

In each case, the difference between the two taxonomies is justified on the basis that plan development activities require different emphases than institutional health services review activities.

IV. USES FOR THE RECOMMENDED FRAMEWORK

It is important to place the role of the taxonomy in perspective in relation to plan development, and to recognize its limitations as well as its uses. Since the focus of plan development is on the needs of the population being served, and not on the needs of the health system, the recommended framework for viewing the health system cannot be a starting point for all planning activities. For example, the selection of health status indicators and goals is an activity which can and should be carried out without reference to a health system framework.

On the other hand, it is essential at the outset of plan development to define the scope of the health system, since an analysis of that system, and recommendations of changes to that system, are the means by which a plan addresses the needs of the population. This service and setting framework thus offers a starting point for describing the health system of the area, to which demographic, geographic and resource information is related.

The framework can also be used to advantage in selecting indicators of health system performance and in setting health system goals. Each row (of services) in Exhibit II and each column (of settings), as well as the intersection of each row and column in the matrix, represents an identifiable unit of analysis with system performance characteristics that are

measurable. For example, a health systems agency might wish to consider as indicators of health system performance in its region: (the geographic and financial) accessibility of mental health services; the cost of all services provided in short-stay inpatient hospital settings; or the availability of surgical services in ambulatory settings.

Similar performance characteristics can be made specific to population subgroups: the accessibility of dental health services among low income residents; the utilization rate of long-stay inpatient settings per 1,000 population 65 and over; or the availability in a particular county of adequate general medical services in home settings.

This is not to suggest that a planning agency should select indicators, collect data and establish goals for every service/setting intersection in the recommended framework. However, the comprehensiveness of the framework provides assurance that the range of possible health system goals will be considered.

A third important use of the recommended framework is to facilitate the design of actions aimed at the accomplishment of stated objectives with respect to health status or health system performance. In particular, the framework suggests both the breadth of possible service changes which could be aimed at a stated objective, and the variety of alternative settings in which needed services could be delivered.

Suppose, for example, a planning agency has selected neonatal mortality as an indicator of health status and has established a goal relative to that indicator. Related recom-

mended actions are likely then to focus upon changes in the delivery of obstetric services. But reference to the second level categories along the services dimension should also suggest actions aimed at the modification of, and trade-offs among,

Health education services (stressing the positive effects of good nutrition, proper personal health care and adequate prenatal care upon pregnancy outcome)

Individual health protection services (making adequate prenatal services available and accessible as part of a program of comprehensive family health care provided in appropriate ambulatory settings, especially in low-income areas)

Financing patterns (assuring the availability of adequate medical care for uninsured mothers and infants who require intensive perinatal or neonatal care)

Regulations (requiring that all obstetric services satisfy more stringent quality of care guidelines with respect to staffing and equipment capabilities)

Each of these actions is outside the obstetric system per se, yet each could result in a reduced rate of neonatal mortality. Similarly, reference to the settings dimension might suggest examination of alternative settings, other than the traditional (in the U.S.) short-stay hospital, for normal labor and delivery care; or the consideration of innovative settings for individual health protection services. Without the framework to suggest

the breadth of possible interventions, potentially effective actions of this nature might be overlooked.

In sum, the existence and consistent use of an analytic framework such as the one recommended in this report should enable planning agencies to more easily maintain the system-wide perspective essential to effective health planning.

V. HEALTH SYSTEM SERVICES DEFINITIONS

● COMMUNITY HEALTH PROMOTION & PROTECTION SERVICES -

Services directed at the community level toward improving the personal health behavior of community residents and improving the quality of factors in the environment which affect their health.

- Health Education Services - Those services directed toward informing, educating and motivating the public to adopt personal life styles and nutritional practices which will promote optimal health; avoid health risks, and make appropriate use of health care services in the community. Health education services include:

- Transfer of Health Knowledge
- Transfer of Health Information
- Motivation Toward Positive Health Behavior
(including the modification of poor health habits)

- Mental Health Promotion Services - Services to promote optimum mental well-being among individuals in the community:

- Consultation with schools, police, and other community entities

- Environmental Quality Management - Those measures taken to protect the community from environmental hazards causing or contributing to disease, illness, injury or death. Environmental hazards include air, water, and noise pollution, as well as hazards related specifically to unsafe residential and community environs. Prominent concerns of environmental quality management include:

- Water Supply Treatment and Waste Water Disposal
- Solid Waste Disposal
- Air Pollution Control
- Noise Control
- Housing and Residential Hazards Control
- Vector Control
- Recreational Area Hazards Control
- Highway Safety

- Food Protection - Those measures taken to assure wholesome and clean food free from unsafe bacteria and chemical contamination, natural or added deleterious substances, and decomposition during production, processing, packaging distribution, storage, preparation and service; and to assure that marketed foods comply with established nutritional quality and packaging identification guidelines.

The major components of food protection are:

- Sanitation
- Safety
- Nutritional Quality

- Occupational Health and Safety - Actions taken to assure the recognition, prevention and control of occupational health hazards and illnesses, and to promote the physical and mental well-being of employed persons. Occupational health and safety concerns are typically different for each of the following occupational categories:

- Mining (including oil and gas drilling and similar extractive occupations)
- Construction
- Agriculture
- Transportation and Utilities
- Manufacturing, Service and Other

- Radiation Safety - Actions taken to protect the community from unnecessary exposure to ionizing and non-ionizing radiation from controllable industrial and nuclear sources, and to minimize exposure of patients and medical personnel to clinical radiation. The major areas of concern in radiation safety include:

- Industrial Radiation
- Medical Radiation
- Radioactive Wastes

- Biomedical and Consumer Product Safety - Those measures taken to ensure that drugs, cosmetics, therapeutic devices and all types of consumer products including cleaning fluids, pesticides and children's toys are safe and appropriate for their intended use, and are clearly labeled as to the potential harm resulting from abuse or misuse. The major subcategories of biomedical and consumer product safety include:

- Drugs and Medical Devices
- Hazardous Substances and Products

- PREVENTION AND DETECTION SERVICES - Services delivered to individuals in order to promote optimum physical and mental well-being, including protection from the development of disease and ill-health, or to identify disease or ill-health at the presymptomatic or unrecognized symptomatic stage to permit early intervention.

- Individual Health Protection Services - Individual education, routine examination and use of drugs, substances or devices in order to render an individual protected against disease and promote his optimum health. Illustrative service categories include:

- Immunization
- Well-Person Maintenance
- Dental Prophylaxis
- Mental Health Consultation

- Detection Services - Routine evaluation and screening of individuals without recognized symptoms for the purpose of identifying the individuals at risk who have certain diseases or conditions. Illustrative service categories include:

- Condition-Specific Screening
- Multiphasic Screening
- Contact/Collateral Follow-Up

- DIAGNOSIS AND TREATMENT SERVICES - Services for evaluating the health status of individuals and identifying and alleviating disease and ill-health or the symptoms thereof.

- Obstetric Services - The diagnosis and treatment of any abnormalities during pregnancy, and services for the promotion and maintenance of optimum mental and physical well-being of the individual woman and her child from the onset of labor until the end of the perinatal period.

Illustrative service categories include:

- Diagnosis and Treatment of Prenatal Complications
- Labor and Delivery Care
- Post-Partum Care
- Newborn Care

- Surgical Services - The diagnosis and treatment of physical diseases and conditions or their symptoms by means of operative techniques, in conjunction with the administration of anesthesia when appropriate. Illustrative service categories include:

- Surgery (including general surgery and surgical subspecialties)
- Post-Operative Recovery Care
- Post-Surgical Care
- Anesthesiology

- Diagnostic Radiology Services - The detection of physical diseases and other ill-health conditions through the use of radiant energy. Illustrative techniques used include:

- General Roentgenography
- Contrast Radiology
- Computerized Transaxial Tomography
- Nuclear Medicine

- Therapeutic Radiology Services - The treatment of physical diseases or other ill-health conditions through the use of radiant energy. Illustrative techniques used include:

- Megavoltage Therapy
- Orthovoltage Therapy
- Interstitial Radium Therapy

- Clinical Laboratory Services - The testing of specimens from the human body to aid in the diagnosis and treatment of physical diseases and other ill-health conditions. Illustrative types of clinical laboratory services include:

- Hematology
- Chemistry
- Histology
- Microbiology

- Emergency Medical Services - Diagnosis and treatment in response to the perceived need of an individual for immediate medical care in order to prevent loss of life or aggravation of physiological illness or injury. Illustrative components of emergency medical services include:

- Emergency Communication
- Emergency Transportation
- Emergency Medical Treatment

- Dental Health Services - The diagnosis and treatment of diseases and other conditions of the teeth and oral cavity. Illustrative service categories include:

- Dental Restoration
- Periodontics
- Oral Surgery

- Mental Health Services - The diagnosis and treatment of emotional and mental diseases and conditions or their symptoms through the administration of medication and specialized therapy. Illustrative services include:

- General Psychiatric Services
- Alcoholism Treatment
- Drug Abuse Treatment
- Psychological Therapy

- General Medical Services - The diagnosis and treatment of non-emergent physical diseases and other ill-health conditions or their symptoms by techniques distinct from those used in obstetric, surgical, diagnostic and therapeutic radiology, and clinical laboratory services. Illustrative components of general medical services include:

- Clinical Diagnosis, Prescription and Medical Care Management
- Specialized Diagnostic Procedures (e.g., electrocardiography, electroencephalography, cardiac catheterization)
- Renal Dialysis

- HABILITATION AND REHABILITATION SERVICES - Services to restore the ill or disabled individual to, or to assist the developmentally disabled individual to achieve, the fullest physical, mental, social, vocational and economic usefulness of which he is capable.

- Medical Habilitation and Rehabilitation Services -

The medical evaluation of the needs of the ill or disabled individual, and the design, management and evaluation of a habilitation or rehabilitation program to meet those needs.

- Therapy Services - The therapeutic techniques used in implementing a program of habilitation or rehabilitation designed to meet the needs of an ill or disabled individual. Illustrative techniques include:

- Physical Therapy
- Occupational Therapy
- Recreation Therapy
- Prosthetic/Orthotic Services
- Communication Therapy
- Social Therapy

- MAINTENANCE SERVICES - Services provided to individuals with chronic physical and mental ill-health conditions in order to prevent deterioration in those conditions, as well as services provided to individuals in need of assistance in activities of daily living. The purpose of such services is to enable an individual to participate in the community to the fullest degree to which that individual is capable. Maintenance services do not include habilitative or rehabilitative services, since the primary purpose of the latter services is to increase functional ability rather than maintain an existing level of function.

- PERSONAL HEALTH CARE SUPPORT SERVICES - Services which do not involve direct medical care, but which assist in the prevention, diagnosis and treatment of diseases or ill-health conditions, or in the habilitation, rehabilitation or maintenance of ill or disabled individuals.

- Direct Patient Care Support Services - Those services which lend assistance to the prevention, diagnosis and treatment of disease or other ill-health conditions, and to the restoration or habilitation of the ill or disabled. Illustrative examples include:
 - Pharmacy Services
 - Tissue Services (i.e., storage, preservation and distribution of blood, body organs amenable to transplant, and skin)
 - Medical Social Work Services
 - Medical Records Services

- Administrative Services - Those services provided to assure adequate management of medical care resources as well as adequate management of the patient care environment. Illustrative examples include:
 - Management and Supervision of Medical Care Resources
 - Facility Maintenance and Housekeeping Services

- HEALTH SYSTEM ENABLING SERVICES - Organized activities designed to influence the means by which, and conditions under which, health system services are delivered.

- Health Planning - A process which establishes desired future levels for health status and health system performance, designs and selects among alternative actions aimed at modifying the health system so that future levels of both health status and health system performance conform to desired levels, and suggests steps for implementation of the recommended actions.

The sequential components of health planning include:

- Data Assembly and Analysis
- Goal Determination
- Action Recommendation
- Implementation Strategy

- Resources Development - Activities which focus especially upon the recruitment and education of health care professionals, or the construction and modernization of health care facilities. Areas of concern in Resources Development include:

- Manpower
- Facilities
- Equipment

- Financing - The sources and methods of financing both resources development and health system services. Areas of concern include the appropriate use of such modes of financing as:

- Third-Party Reimbursement
- Public Grants and Direct Public Expenditures for Service
- Philanthropic Grants and Payments for Service
- Construction Loans and Loan Guarantees (bonding authority, commercial, etc.)

- Regulation - The intervention of government or accreditation associations in the health system by means of rules and regulations which typically influence, control or set standards relative to the services provided within the health system, the settings in which, and the resources by which, these services are provided, and the manner in which providers of service are reimbursed. Regulatory programs and concerns include:

- Certificate of Need
- SSA 1122 Agreements
- Manpower Licensure and Certification
- Facility Licensure and Certification
- Rate Regulation
- Insurance Regulation
- JCAH and Other Association Accreditation

- Research - Scientific investigation or inquiry. Research concerns within the health system can be classified as follows:

- Biomedical
- Behavioral
- Technological
- Organizational and Services Delivery

VI. HEALTH SYSTEM SETTING DEFINITIONS

- HOME SETTING - A person's usual or temporary place of residence (except where such place of residence is a health care institution), with the result that the patient does not travel in order to receive services.

- MOBILE SETTING - A movable structure or specially equipped vehicle used to provide continuing or periodic health care services in a location selected to assure geographic accessibility to an identified target population; or a vehicle used to provide health care services during transportation of patients. Mobile settings include:
 - Ambulances
 - Mobile Screening Units
 - Mobile Health Centers

- AMBULATORY SETTING - A location where organized health care services are provided to patients who travel to the site of care, receive a service or services, and leave the site the same day. An ambulatory setting typically has no provision for overnight patient stay.

- Hospital - Any hospital-based outpatient clinic, emergency department, or ancillary department serving ambulatory patients.

●● Other Than Hospital - Any location which is not an organizational component of a hospital where personal health care services are provided on an outpatient basis. Illustrative settings appropriate to this category include:

- Neighborhood Health Centers
- Public Health Centers
- Primary Care Physician Offices (including general and family practice physicians, internists, pediatricians and obstetrician/gynecologists)
- Specialist Physician Offices
- Dentist Offices
- Dental Clinics
- Surgicenters
- Renal Dialysis Centers
- Mental Health Centers
- Alcoholism and/or Drug Abuse Treatment Centers
- Well-Child Clinics
- Family Planning Clinics
- Rehabilitation Centers
- Multiphasic Screening Clinics
- Abortion Clinics
- Suicide Prevention Centers
- Adult Day-Care Centers
- Schools
- Places of Employment
- Residential Institutions (including residential schools, colleges and universities, and prisons)

● SHORT STAY INPATIENT SETTING - A location where personal health care services are provided to patients who stay overnight, at least fifty percent of whom leave less than thirty days following admission.

●● Hospital - An institution whose primary function is to provide inpatient diagnostic, treatment or therapeutic

services to patients. Short-stay hospitals may be further classified as unrestricted, or restricted in accordance with written policies which limit the hospital's use to persons with a specific health condition, demographic characteristic (e.g., age, sex) or affiliation; illustrative categories include:

- General Hospitals
- Children's Hospitals
- Maternity Hospitals
- Ophthalmologic Hospitals
- Psychiatric Hospitals
- Veteran's Administration Hospitals

- Other Than Hospital - Any location where personal health care services are provided on a short-term inpatient basis which is not considered an organizational component of a hospital. Illustrative settings appropriate to this category include:

- Crisis Intervention Centers
- Convalescent Centers

- LONG-STAY INPATIENT SETTING - A location where personal health care services are provided to patients who stay overnight, at least fifty percent of whom remain thirty consecutive days or longer.

- Hospital - An institution whose primary function is to provide inpatient diagnostic, treatment, therapeutic or maintenance services to patients. Long-stay hospitals

may be further classified as unrestricted, or restricted to people with particular characteristics; illustrative categories include:

- General Hospitals
- Psychiatric Hospitals
- Orthopedic Hospitals
- Physical Rehabilitation Hospitals
- Tuberculosis Hospitals
- Chronic Disease Hospitals

- Other Than Hospital - Any location where personal health care services are provided on a long-term inpatient basis which is not considered an organized component of a hospital. Illustrative settings appropriate to this category include:

- Skilled Nursing Facilities (physician supervision and one RN at all times)
- Intermediate Care Facilities (setting for nursing and related services)
- Personal Care Homes (setting for assistance in activities of daily living)
- Sheltered Care Homes (protective environment)

- FREE STANDING SUPPORT SETTING - A location where health services are provided which support the delivery of personal health care services without providing direct patient care, and which is not a component of an organization which delivers personal health care services in another setting.

Free Standing Support Settings include:

- Medical Laboratories
- Dental Laboratories
- Pharmacies
- Tissue Banks (including blood, organ and skin banks)
- Health Information Centers

- COMMUNITY SETTING - Settings in which community health promotion and health system enabling services, rather than personal health care services or patient related support services are provided. Voluntary or public agencies or schools for health professions/occupations typically provide services in community settings.

APPENDIX A

This review of existing taxonomies is not intended to be comprehensive. Rather, it is a discussion of some widely used taxonomies and some illustrative examples of the ways in which various agencies have organized health care services and institutions for analytical and data collection purposes.

EXPLICIT TAXONOMIES

This section presents taxonomies extant in the literature or developed by organizations to structure their activities. These taxonomies represent attempts to organize all or part of the health care system into an analytic framework according to a classification scheme which is useful for the purposes of the taxonomies' authors. A distinction is drawn between taxonomies primarily concerned with services and those primarily concerned with institutions. The exhibits depict the characteristics of selected taxonomies.

Explicit Taxonomies Primarily Concerned with Health Care Services

Comprehensive Health Planning, Community Health System Analysis and Evaluation Model, California State Office of Comprehensive Health Planning, September 1972 (Exhibit II-1). This taxonomy was reviewed as an example of planning agency classification schemes. The classification scheme categorizes health care services into preventive, diagnostic, treatment, rehabilitation, maintenance, and emergency services. Health services settings are classified as inpatient, outpatient or non-patient facilities, with further classifications within these according to levels of care and specialty.

The typology has many overlapping categories as the categorization is, to a great extent, dependent on the services offered within a given facility. A second major weakness of the model is the specification of emergency services as a major category on a level with the service classification. Emergency services should be identified in a typology but to designate emergency services as a separate functional type is not justified and causes considerable analytical confusion. Emergency services are those which meet the needs of patients who enter the health care system through an unusual entry point, and the resources which comprise the service are frequently also used for the delivery of other services. To distinguish emergency services as a major category increases the likelihood of duplication in the planning process.

EXHIBIT II-1

COMPREHENSIVE HEALTH PLANNING, COMMUNITY HEALTH SYSTEM ANALYSIS AND EVALUATION MODEL, CALIFORNIA STATE OFFICE OF COMPREHENSIVE HEALTH PLANNING, SEPTEMBER 1972

1. PREVENTIVE SERVICES

1.01	Physical Examinations	1.05	Health Education
1.02	Well Baby Care	1.06	Dental Prophylaxis
1.03	Pre-Post-Natal Care	1.07	Counseling
1.04	Immunizations	1.20	Other

2. DIAGNOSTIC SERVICES

2.01	Laboratory	2.05	Graphics
2.02	Radiology	2.06	Multi-Phasic
2.03	Consultations	2.20	Other
2.04	Surgical		

3. TREATMENT SERVICES

3.01	Drugs	3.06	Acute Psychiatric
3.02	Surgery	3.07	Radiological
3.03	General Medical	3.08	Dental
3.04	Obstetrical	3.20	Other
3.05	Nursing Care		

4. REHABILITATION SERVICES

4.01	Physical Therapy	4.05	Post Acute Nursing
4.02	Occupational Therapy	4.06	Counseling
4.03	Speech Therapy	4.07	Dental Procedures
4.04	Drug Regimen	4.20	Other

5. MAINTENANCE SERVICES

5.01	Physical Care	5.32	Devices
5.02	Long Term Administration	5.03	Nutrition
5.12	Drugs	5.04	Social Services
5.22	Dressings	5.20	Other

6. EMERGENCY SERVICES

6.01	On Site Treatment	6.03	Emergency Room Services
6.02	Transportation	6.04	Hospital Specialty Services
6.12	Ambulance	6.14	Surgery
6.22	Air-Ambulance	6.24	Cast Room
6.32	Passer-by	6.05	Inpatient Care

Standard Categories of Health Care Services for Certificate of Need, New Jersey (Exhibit II-2). The primary classification criterion of this scheme is whether health care services are bed-related, non-bed related, special or support services. Within these categories there are listed services which are based on medical specialty, disease type, technique and, in a few cases, setting. The dependence of the taxonomy on a distinction between bed-related and non-bed related does not allow for analyzing many personal health care services across institutions or for assessing the appropriateness of a service which may be delivered in a variety of settings. However, the designation of a support category is useful.

A Community Health Care System Model in a Planning Framework, Arthur Young & Company, November 1975, (Draft) (Exhibit II-3). This model was developed as a framework for health planning activities. The first major distinction drawn is between primary, intermediate and tertiary care. Within these categories services are to be arrayed according to the preferences of each planning agency using the scheme. Thus, each agency itself is responsible for delineating services within the three broad categories. A scheme such as this is inadequate for appropriateness review and has major deficiencies for planning because a SHPDA would be unable to compile recommendations from HSAs into State plans since there is no assurance that each HSA would review the same service package. The list of services presented as illustrative in the model are not useful as they mix institutions and services and aggregate to varying levels.

International Classification of Diseases, Adapted for Use in the United States (ICDA). ICDA is a comprehensive classification of diagnostic codes, organized under major headings. It forms the basis for Professional Standards Review Organization decision-making about quality and length of stay considerations as well as several reporting systems. However, the categories included in ICDA are too detailed to be useful in planning and review and are not classified in order to reflect the spectrum of health care services which may be organized to serve population needs.

EXHIBIT II-2

STANDARD CATEGORIES OF HEALTH CARE SERVICES FOR CERTIFICATE OF NEED, NEW JERSEY

A. BED-RELATED

- | | |
|---------------------------|---------------------------|
| 1. Medicine, Surgery | 7. Rehabilitation |
| 2. Obstetrics, Gynecology | Long-Term Care Categories |
| 3. Pediatric | 8. Skilled Nursing |
| 4. Intensive Care | 9. Intermediate Care |
| 5. Cardiac Care | 10. Sheltered Care |
| 6. Psychiatric | |

B. NON BED-RELATED

- | | |
|-----------------------------------|--|
| 1. Outpatient and Clinic Services | 8. Vocational/Disability Services |
| 2. Emergency Room Services | 9. Social Services |
| 3. Diagnostic Radiology | 10. Home Health Agency |
| 4. Nuclear Medicine | 11. Drug Rehabilitation |
| 5. Laboratory Services | 12. Alcohol Rehabilitation |
| 6. Physical Medicine | 13. Free-Standing Health Screening Centers |
| 7. Dentistry | |

C. SPECIAL SERVICES

- | | |
|----------------------------|--------------------------------------|
| 1. Renal Dialysis | 7. Therapeutic Radiation |
| 2. Cardiac Catheterization | 8. Organ Bank |
| 3. Burn Center | 9. Blood Bank |
| 4. Neurosurgery | 10. Neo-Natal Intensive Care |
| 5. Open Heart Surgery | 11. Health Maintenance Organizations |
| 6. Organ Transplant | |

D. SUPPORT SERVICES

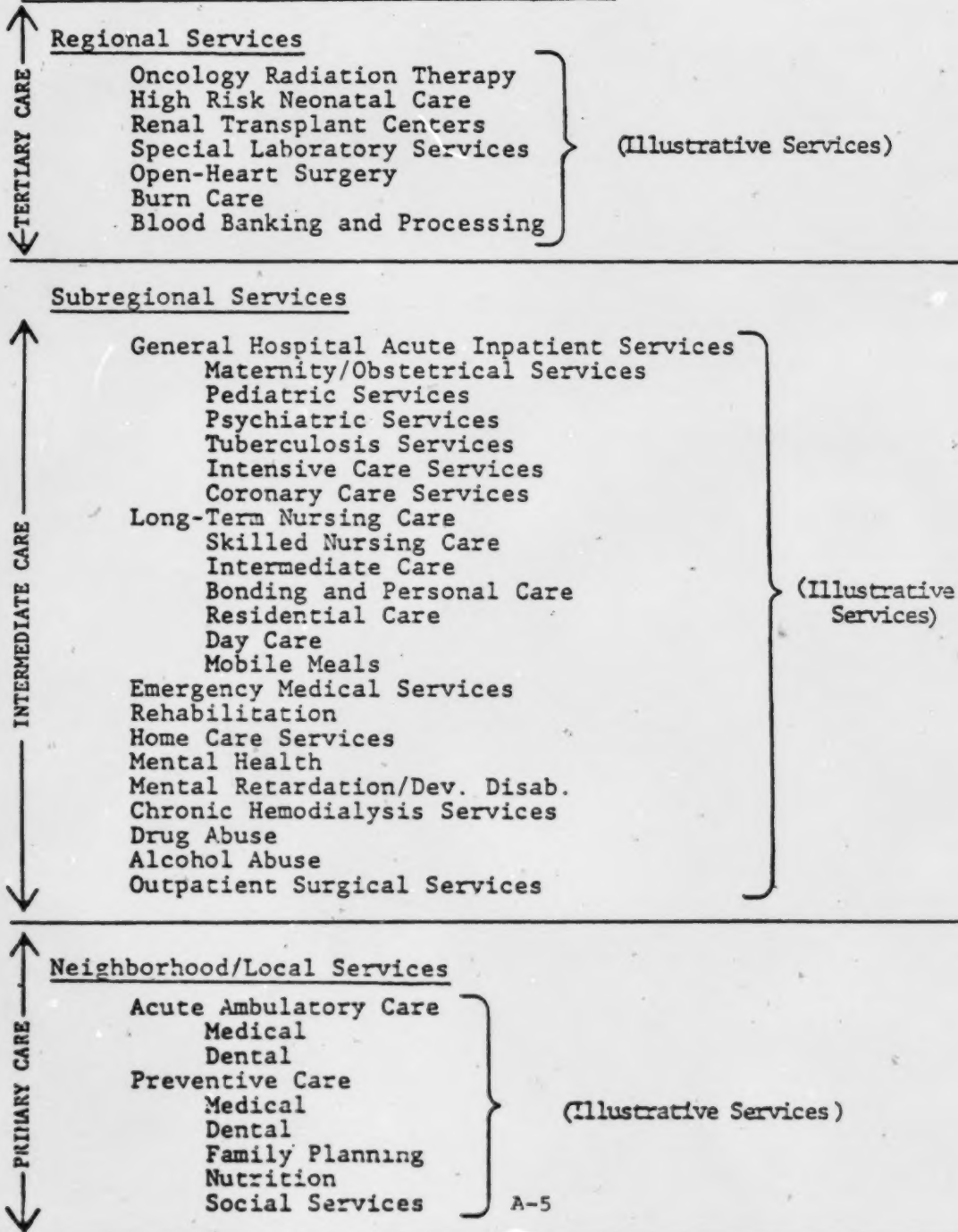
- | | |
|-------------------------------|--------------------------|
| 1. Accounting | 8. Laundry - Linen |
| 2. Admitting | 9. Operation of Plant |
| 3. Central Sterile Supply | 10. Maintenance of Plant |
| 4. Dietary and Cafeteria | 11. Medical Records |
| 5. Electronic Data Processing | 12. Purchasing |
| 6. General Administration | 13. Security |
| 7. Housekeeping | |

A-4

EXHIBIT II-3

A COMMUNITY HEALTH CARE SYSTEM MODEL,
IN A PLANNING FRAMEWORK, ARTHUR YOUNG AND COMPANY
(DRAFT)

THE SPECTRUM OF HEALTH CARE SERVICES



Explicit Taxonomies Primarily Concerned With Health Care Institutions

Conference on Classification of Health Care Institutions, American Hospital Association, 1974 (Exhibit II-4). This typology categorizes health care institutions initially as medical care institutions and health-related care institutions. The medical care category is then classified by setting and general or special purpose. The health-care related institutions are categorized according to intensity.

The major deficiency of the AHA typology for planning and review is its focus strictly on institutions. In addition, the distinction between medical care and health-related care institution is somewhat arbitrary and inadequately defined.

The Master Facility Inventory, National Center for Health Statistics, DHEW (Exhibit II-5). This typology was designed to classify inpatient institutions. It categorizes according to length of stay, with the first level of specificity distinguishing between short-stay hospitals and resident institutions. Resident institutions are classified according to levels of care. Hospitals, both short and long-stay, are broken down into general and special purpose institutions. Types of special purpose institutions are then listed. The typology has some categories--such as correctional institutions and orphan asylums--which are not useful for health planning and review functions.

IMPLICIT TAXONOMIES

This section describes a number of data collection activities which imply some analytic organization of part or all of the health care system. The purpose of the task was to determine whether any of these implicit taxonomies were suitable for planning and review. A distinction was drawn between those data collection systems primarily concerned with services and those which focus on institutions.

EXHIBIT II-4

CONFERENCE ON CLASSIFICATION OF HEALTH CARE INSTITUTIONS, AMERICAN HOSPITAL ASSOCIATION, 1974

I. MEDICAL CARE INSTITUTION

A. Inpatient Care Institution

1. Hospital
 - a. General
 - b. Special
2. Nursing care institution
 - a. General
 - b. Special

B. Ambulatory Care Institution

1. General
2. Special
3. Day care institution
 - a. General
 - b. Special

C. Home Health Institution

1. General
2. Special

II. HEALTH-RELATED CARE INSTITUTION

A. Intermediate Care Institution

B. Resident Care Institution

C. Halfway House

A-7

EXHIBIT II-5

CLASSIFICATION OF FACILITIES, MASTER FACILITY INVENTORY, NATIONAL CENTER FOR HEALTH STATISTICS

A. SHORT-STAY HOSPITALS

1. General
2. Special
 - a. Maternity
 - b. Eye, ear, nose, and throat
 - c. Pediatric
 - d. Other

B. RESIDENT INSTITUTIONS

1. Long-stay hospitals
 - a. General
 - b. Psychiatric
 - c. Mental retardation
 - d. Geriatric
 - e. Orthopedic
 - f. Tuberculosis
 - g. Chronic disease
 - h. Other
2. Nursing, personal or domiciliary care establishments
 - a. Nursing care
 - b. Personal care with nursing
 - c. Personal care
 - d. Domiciliary care
3. Custodial care homes
 - a. Homes for the deaf
 - b. Homes for the blind
 - c. Homes for unwed mothers
 - d. Orphan Asylums
 - e. Other
4. Correctional institutions
 - a. Prisons and reformatories
 - b. Detention homes for juvenile delinquents

Implicit Taxonomies Primarily Concerned With Health Care Services

Ambulatory Medical Care Records: Uniform Minimum Basic Data Set, NCHS, August 1974. This publication represents the first major federal effort to influence the information available about health care services provided on an ambulatory basis. The recommended minimum data set could serve as a model for future data collection and analysis activities. For this reason the characteristics of the data set are considered here, although the system is not yet fully implemented.

The data set is guided by a principle of "minimal specificity." The conference which developed the data set recognized that ambulatory care providers will record data with variable specificity emphasizing different components of the minimum data set to meet their needs. No prescriptive format for recording the data set is suggested.

The lack of precision with which the conference approached the format and abstraction of the data set greatly decrease its usefulness for planning and review. The set offers no organized method by which services received can be identified and aggregated for health planning agency purposes. This major deficiency was recognized by those who developed the system and it is recommended that providers and third party payors come together to develop and implement a uniform nomenclature of services and procedures. This has not, to date, been achieved.

Schedule of Fees, Blue Cross Association. The schedule of fees authorized by the Blue Cross Association is an implicit taxonomy listing services and acceptable fees associated with each. The schedule is based on human anatomy and related specific surgical or medical procedures. There are additional categories for physician visits to inpatients, intensive care and consultation services. The schedule is too detailed and too dependent on disease or condition types to be useful for planning and review.

Distribution of Physicians, Hospitals and Hospital Beds in the U.S., American Medical Association, 1969 (Exhibit II-6). The statistics presented in this publication imply a typology of resources delivering health care services. Each county in the U.S. is described in terms of number of hospitals, number of hospital beds, type and major professional activity of physicians.

EXHIBIT II-6

CLASSIFICATION OF PHYSICIAN SPECIALTIES, AMERICAN MEDICAL ASSOCIATION

1. GENERAL PRACTICE

General Practice

2. MEDICAL SPECIALTIES

Allergy	Pediatrics
Cardiovascular Diseases	Pediatric Allergy
Dermatology	Pediatric Cardiology
Gastroenterology	Pulmonary Diseases
Internal Medicine	

3. SURGICAL SPECIALTIES

General Surgery	Otolaryngology
Neurological Surgery	Plastic Surgery
Obstetrics and Gynecology	Colon and Rectal Surgery
Ophthalmology	Thoracic Surgery
Orthopedic Surgery	Urology

4. OTHER SPECIALTIES

Aerospace Medicine	Pathology
Anesthesiology	Physical Medicine and Rehabilitation
Child Psychiatry	General Preventive Medicine
Diagnostic Roentgenology	Public Health
Forensic Pathology	Radiology
Neurology	Therapeutic Radiology
Occupational Medicine	Other Specialty
Psychiatry	Unspecified

Physicians are categorized as being in general practice, medical specialty, surgical specialty or other specialties, with specific AMA specialty types classified under these headings. Major professional activities are identified as patient care or other, patient care being classified as office based or hospital based.

The inferred typology would focus on these specialties and the services provided by each in the identified setting types. This scheme is not comprehensive and therefore not useful for planning and review since it addresses only one component of medical care resources.

Number of Recipients and Amount of Payment Under Medicaid, Fiscal Year 1973, Social and Rehabilitation Service, November 1975. (Exhibit II-7). Various statistics which describe the use of health care services by Medicaid-eligible individuals are described in this annual report. The definitions of types of service were reviewed to determine their usefulness for a taxonomy of institutional health services. The size of the Medicaid program, with 20 million recipients in fiscal 1973, suggested that a taxonomy based on these data groupings could be useful for planning and review analysis because of the extent of the information available.

It was found, however, that the health care services reporting system under Medicaid is too institution-specific to form the basis of a taxonomy. Services are defined as those provided to patients by a provider or institutional type. For example, inpatient hospital services are defined as all items of care furnished to an inpatient and dental services are those provided by a dentist. The Medicaid definitions are not, therefore, useful to a taxonomy for planning and review because of the dependancy on provider-types which does not allow for an assessment of services across across alternate institutional provider-types.

Mental Health Statistics, National Institute of Mental Health. NIMH conducts a number of data collection activities in the area of mental health. Included in this effort are several inventories of mental health facilities, a sample survey of admissions to outpatient services and an annual survey of terminations from outpatient surveys. Detailed information is collected, analyzed and published as a result

EXHIBIT II-7
ABBREVIATED DEFINITIONS OF SERVICES USED
IN THE MEDICAID PROGRAM

Inpatient hospital services - All items of care furnished to an inpatient and covered by the hospital's bill.

General hospital - A hospital maintained primarily for inpatient care of acute illness or injury and for obstetrics or tuberculosis.

Mental hospital - A hospital primarily engaged in providing psychiatric services for the diagnosis and treatment of mentally ill persons.

Skilled nursing home services - All services furnished to inpatients of, and billed for by, a licensed or formally approved nursing home that meets standards required under a Title XIX program.

Intermediate care facility services - All services provided by an institution furnishing health-related care and services to individuals who do not require the degree of care provided by hospitals or skilled nursing homes.

Physicians' services - Services provided by an individual licensed under State law to practice medicine or osteopathy. Services covered by hospital bills are not included.

Dental services - Services, including ancillary services, provided by a dentist in the practice of his profession.

Other practitioners' services - Services of licensed practitioners other than physicians and dentists.

Outpatient hospital services - Services furnished to outpatients by a hospital.

Clinic services - Services furnished to outpatients by a facility which is not part of a hospital, but which is organized and operated to provide services to outpatients.

Laboratory and radiological services - Professional and technical laboratory and radiological services provided in an office or similar facility (other than a hospital outpatient department or clinic) or by a qualified laboratory.

Home health services - Services furnished a patient in his home, including: Intermittent or part-time nursing service provided by a home health agency, or by a registered professional nurse or licensed practical nurse; medical supplies, equipment, and appliances for use in the home; and services of a home health aide.

EXHIBIT II-7 (Continued)

Prescribed drugs - Drugs dispensed by a licensed pharmacist on the prescription of a practitioner licensed by law to administer such drugs, and drugs dispensed by a licensed practitioner to his own patients. This item does not include a practitioner's drug charges that are not separable from his other charges, or drug covered by a hospital's bill.

Other care - Any medical or remedial care not covered by the above.

of these activities but the focus only on mental health limits the applicability of this model in developing a taxonomy of institutional health services.

Implicit Taxonomies Primarily Concerned With Health Care Institutions

American Hospital Association, Guide to the Health Care Field (Exhibit II-8). This yearly publication lists all registered U.S. hospitals and accredited long-term care facilities. It identifies hospitals according to control, short- or long-term stay and general or special service. Long-term care facilities are classified as extended, nursing or resident care facilities.

Within the category of hospitals 46 "facilities" are identified as being present or absent in each listed hospital. These items have formed the basis of major data collection and analysis activities. However, the list suffers from the lack of a single classification criteria and includes items of varying degrees of specificity. In addition, it mixes settings, facilities and services in the same dimension.

List of Hospital Areas/Services/Department, Joint Commission on the Accreditation of Hospitals (JCAH) (Exhibit II-9). In its survey activities, the JCAH records the presence or absence of several characteristics of a hospital. Some items are identified as services, while others are units, modes of care, or organizational components of the facility. These items are useful in analyzing hospitals, but are too hospital specific to be a determinant of a taxonomy for planning and review of all types of institutional health services.

Professional Activity Study, CPHA. PAS is a system of uniform data collection systems which uses medical record information supplied by over 2,000 member hospitals for each discharged patient. The data forms the basis of a number of reports which are useful to hospitals in evaluating their own performance against that of all member hospitals. The information gathered by the PAS program includes charges, length of stay, residence of patient and a profile of care received. The narrow interest on short-stay hospitals limits the usefulness of this system for taxonomy development and its orientation as a management tool does not lend itself to adaption for planning and review purposes.

EXHIBIT II-8

FACILITIES REPORTED IN THE AMERICAN HOSPITAL ASSOCIATION GUIDE TO THE HEALTH CARE FIELD

- 1—Postoperative recovery room
- 2—Intensive cardiac care unit
- 3—Intensive care unit
- 4—Open-heart surgery facilities
- 5—Pharmacy with FT registered pharmacist
- 6—Pharmacy with PT registered pharmacist
- 7—X-ray therapy
- 8—Cobalt therapy
- 9—Radium therapy
- 10—Diagnostic radioisotope facility
- 11—Therapeutic radioisotope facility
- 12—Histopathology laboratory
- 13—Organ bank
- 14—Blood bank
- 15—Electroencephalography
- 16—Inhalation therapy department
- 17—Premature nursery
- 18—Self-care unit
- 19—Extended care or long-term nursing care unit
- 20—Inpatient renal dialysis
- 21—Outpatient renal dialysis
- 22—Burn care unit
- 23—Physical therapy department
- 24—Occupational therapy department
- 25—Rehabilitation inpatient unit
- 26—Rehabilitation outpatient unit
- 27—Psychiatric inpatient unit
- 28—Psychiatric outpatient unit
- 29—Psychiatric partial hospitalization program
- 30—Psychiatric emergency services
- 31—Psychiatric foster and/or home care
- 32—Psychiatric consultation and education services
- 33—Clinical psychologist services
- 34—Organized outpatient department
- 35—Emergency department
- 36—Social work department
- 37—Family planning service
- 38—Genetic counseling service
- 39—Abortion service (inpatient)
- 40—Abortion service (outpatient)
- 41—Home care department
- 42—Dental services
- 43—Podiatrist services
- 44—Speech therapist services
- 45—Hospital auxiliary
- 46—Volunteer services department

APPENDIX B

HEALTH SYSTEM SERVICES CLASSIFICATION

● COMMUNITY HEALTH PROMOTION & PROTECTION SERVICES

●● Health Education Services

- Transfer of Health Knowledge
- Transfer of Health Information
- Motivation Toward Positive Health Behavior (including the modification of poor health habits)

●●●
●●●
●●●

●● Environmental Quality Management

- Water Supply Treatment and Waste Water Disposal
- Solid Waste Disposal
- Air Pollution Control
- Noise Control
- Housing and Residential Hazards Control
- Vector Control
- Recreational Area Hazards Control
- Highway Safety

●●●
●●●
●●●

●● Food Protection

- Sanitation
- Safety
- Nutritional Quality

●●●
●●●
●●●

● COMMUNITY HEALTH PROMOTION & PROTECTION SERVICES (continued)

●● Occupational Health and Safety

- Mining (including oil and gas drilling and
similar extractive occupations)
- Construction
- Agricultural
- Transportation and Utilities
- Manufacturing, Service and Other
-
-
-

●● Radiation Safety

- Industrial Radiation
- Medical Radiation
- Radioactive Wastes
-
-
-

●● Biomedical and Consumer Product Safety

- Drugs and Medical Devices
- Hazardous Substances and Products
-
-
-

● PREVENTION AND DETECTION SERVICES

●● Individual Health Protection Services

- Immunization
- Well-Person Maintenance
- Dental Prophylaxis
-
-
-

● PREVENTION AND DETECTION SERVICES (continued)

●● Detection Services

- Condition-Specific Screening
- Multiphasic Screening
- Contact/Collateral Follow-Up
-
-
-

● DIAGNOSIS AND TREATMENT SERVICES

●● Obstetric Services

- Diagnosis and Treatment of Prenatal Complications
- Labor and Delivery Care
- Post-Partum Care
- Neonatal Care
-
-
-

●● Surgical Services

- Surgery (including general surgery and surgical subspecialties)
- Post-Operative Recovery Care
- Post-Surgical Care
- Anesthesiology
-
-
-

●● Diagnostic Radiology Services

- General Roentgenography
- Contrast Radiology
- Computerized Transaxial Tomography
- Nuclear Medicine
-
-
-

● DIAGNOSIS AND TREATMENT SERVICES (continued)

●● Therapeutic Radiology Services

- Megavoltage Therapy
- Orthovoltage Therapy
- Interstitial Radium Therapy
-
-
-

●● Clinical Laboratory Services

- Hematology
- Chemistry
- Histology
- Microbiology
-
-
-

●● Emergency Medical Services

- Emergency Communication
- Emergency Transportation
- Emergency Medical Treatment
-
-
-

●● Dental Health Services

- Dental Restoration
- Periodontics
- Oral Surgery
-
-
-

● DIAGNOSIS AND TREATMENT SERVICES (continued)

●● Mental Health Services

- General Psychiatric Services
- Alcoholism Treatment
- Drug Abuse Treatment
- Psychological Therapy
-
-
-

●● General Medical Services

- Clinical Diagnosis, Prescription and Medical Care Management
- Specialized Diagnostic Procedures (e.g., electrocardiography, electroencephaleography, cardiac catheterization)
- Renal Dialysis
-
-
-

● HABILITATION AND REHABILITATION SERVICES

●● Medical Habilitation and Rehabilitation Services

- (No Level 3)

●● Therapy Services

- Physical Therapy
- Occupational Therapy
- Recreation Therapy
- Prosthetic/Orthotic Services
- Communication
- Social Therapy

● MAINTENANCE

●● (No Level 2)

- (No Level 3)

● PERSONAL HEALTH CARE SUPPORT SERVICES

●● Direct Patient Care Support Services

- Pharmacy Services
- Tissue Services (i.e., storage, preservation and distribution of blood, body organs amenable to transplant, and skin)
- Medical Social Work Services
- Medical Records Services
-
-
-

●● Administrative Services

- Management and Supervision of Medical Care Resources
- Facility Maintenance and Housekeeping Services
-
-
-

● HEALTH SYSTEM ENABLING SERVICES

●● Health Planning

- Data Assembly and Analysis
- Goal Determination
- Action Recommendation
- Implementation Strategy
-
-
-

●● Resources Development

- Manpower
- Facilities
- Equipment
-
-
-

● HEALTH SYSTEM ENABLING SERVICES (continued)

●● Financing

- Third-Party Reimbursement
- Public Grants and Direct Public Expenditures for Service
- Philanthropic Grants and Payments for Service
- Construction Loans and Loan Guarantees (bonding authority, commercial, etc.)

●●●
●●●
●●●

●● Regulation

- Certificate of Need
- SSA 1122 Agreements
- Manpower Licensure and Certification
- Facility Licensure and Certification
- Rate Regulation
- Insurance Regulation
- JCAH and Other Association Accreditation

●●●
●●●
●●●

●● Research

- Biomedical
- Behavioral
- Technological
- Organizational and Services Delivery

●●●
●●●
●●●

HEALTH SYSTEM SETTING CLASSIFICATION

● HOME

●● (No Level 2)

●●● (No Level 3)

● MOBILE

●● (No Level 2)

●●● Ambulances
●●● Mobile Screening Units
●●● Mobile Health Centers

● AMBULATORY

●● Hospital

●●● (No Level 3)

●● Other Than Hospital

●●● Neighborhood Health Centers
●●● Public Health Centers
●●● Primary Care Physician Offices (including general
and family practice physicians, internists,
pediatricians and obstetrician/gynecologists)
●●● Specialist Physician Offices
●●● Dentist Offices
●●● Dental Clinics
●●● Surgicenters
●●● Renal Dialysis Centers
●●● Mental Health Centers
●●● Alcoholism and/or Drug Abuse Treatment Centers
●●● Well-Child Clinics
●●● Family Planning Clinics
●●● Rehabilitation Centers
●●● Multiphasic Screening Clinics
●●● Abortion Clinics
●●● Suicide Prevention Centers
●●● Adult Day-Care Centers
●●● Schools

● AMBULATORY (continued)

●● Other Than Hospital (continued)

- Places of Employment
- Residential Institutions (including residential schools, colleges and universities, and prisons)

●●●
●●●
●●●

● SHORT-STAY INPATIENT

●● Hospital

- General
- Children's
- Maternity
- Ophthalmologic
- Psychiatric
- Veteran's Administration

●●●
●●●
●●●

●● Other Than Hospital

- Crisis Intervention Centers
- Convalescent Centers

●●●
●●●
●●●

● LONG-STAY

●● Hospital

- General
- Psychiatric
- Orthopedic
- Physical Rehabilitation
- Tuberculosis
- Chronic Disease

●●●
●●●
●●●

B-9

● LONG-STAY (continued)

●● Other Than Hospital

- Skilled Nursing Facilities (physician supervision and one RN at all times)
- Intermediate Care Facilities (setting for nursing and related services)
- Personal Care Homes (setting for assistance in activities of daily living)
- Sheltered Care Homes (protective environment)
-
-
-

● FREE STANDING SUPPORT SETTING

●● (No Level 2)

- Medical Laboratories
- Dental Laboratories
- Pharmacies
- Tissue Banks (including blood, organ and skin banks)
- Opticianries
- Health Information Centers
-
-
-

● COMMUNITY

●● (No Level 2)

- (No Level 3)